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The Arctic in Transition: How the Russo-Ukrainian War Challenged Exceptionalism and Reshaped Regional Governance and Security

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Abstract

Long perceived as a zone of pragmatic Russia-West cooperation, the Arctic has increasingly become entangled in the broader dynamics of geopolitical rivalry following Russia's invasion of Ukraine on 24 February 2022. This rupture has profoundly unsettled the region's delicate balance, leading to the suspension of the Arctic Council's activities and the interruption of long-standing diplomatic and scientific engagements. Concurrently, the accession of Finland and Sweden to NATO has reshaped the regional security architecture, further marginalizing Russia and accelerating an ongoing process of militarization. The conflict has also amplified hybrid threats and expanded the strategic ambitions of non-Arctic actors – most notably China – introducing new sources of volatility into an already complex environment. Against this backdrop, this article contends that the Arctic constitutes not merely a region affected by the war, but a critical observatory for assessing the resilience of institutional cooperation under conditions of systemic fragmentation. It analyzes how the deterioration of trust, the instrumentalization of science, and the securitization of governance are transforming the Arctic's geopolitical configuration. More broadly, it explores whether pragmatic forms of engagement can be preserved in an era marked by polarization, deterrence logics, and the blurring of civil-military boundaries. As such, the Arctic emerges as a revealing microcosm of the shifting international order – and a testbed for the future of multilateralism.

Abstract (Italiano)

A lungo percepito come uno spazio di cooperazione pragmatica tra Russia e Occidente, l'Artico è sempre più coinvolto nelle dinamiche di rivalità geopolitica seguite all'invasione russa dell'Ucraina del 24 febbraio 2022. Questa frattura ha profondamente destabilizzato l'equilibrio delicato della regione, portando alla sospensione delle attività del Consiglio

Artico e all'interruzione di rapporti diplomatici e scientifici di lunga data. Parallelamente, l'adesione di Finlandia e Svezia alla NATO ha ridisegnato l'architettura di sicurezza regionale, emarginando ulteriormente la Russia e accelerando un processo già in corso di militarizzazione. Il conflitto ha inoltre amplificato le minacce ibride ed esteso le ambizioni strategiche di attori non artici – in particolare la Cina – introducendo nuove fonti di instabilità in un contesto già complesso. In questo scenario, l'articolo sostiene che l'Artico non rappresenti soltanto una regione colpita dalla guerra, ma un osservatorio cruciale per valutare la resilienza della cooperazione istituzionale in condizioni di frammentazione sistemica. Si analizza come il deterioramento della fiducia, la strumentalizzazione della scienza e la securitizzazione della governance stiano trasformando la configurazione geopolitica artica. Più in generale, si esplora se forme pragmatiche di collaborazione possano sopravvivere in un'epoca segnata da polarizzazione, logiche di deterrenza e crescente sovrapposizione tra dimensioni civili e militari. In tal senso, l'Artico emerge come un microcosmo rivelatore del mutamento dell'ordine internazionale – e come banco di prova per il futuro del multilateralismo.

Keywords: *Arctic Council, Arctic security, governance, NATO enlargement, Russia–Ukraine war, science diplomacy*

1. Introduction

Once regarded as a stronghold of pragmatic cooperation between Russia and the West, the Arctic region is now increasingly exposed to the disruptive consequences of intensifying global tensions. For over three decades, it sustained a distinctive model of governance grounded in dialogue, multilateralism, and scientific collaboration – despite enduring geopolitical frictions and the gradual deterioration of relations between Russia and Western states. This peculiar ability to compartmentalize cooperation fostered the notion of "Arctic exceptionalism": the belief that the region could remain insulated from external political conflicts due to shared challenges and its institutional architecture.

However, Russia's invasion of Ukraine in February 2022 laid bare the inherent fragility of this paradigm, clearly exposing the limitations of the exceptionalist framework. Three and a half years into the conflict, even as Arctic states continue to reiterate the importance

of dialogue and collective responsibility, the war has triggered a cascade of effects that have gradually reshaped previously stable regional dynamics. From the suspension of cooperation within the Arctic Council to the hardening of national security postures, the institutional and strategic foundations of Arctic governance have come under mounting pressure. Furthermore, the crisis has cast doubt on the legitimacy of key regional institutions – most notably the Arctic Council – not in terms of their legal underpinnings, but in their ability to respond to external geopolitical shocks and to inclusively and effectively represent all regional stakeholders.

The Arctic, moreover, has not merely reacted to the immediate disruptions provoked by the conflict, but has also absorbed deeper structural consequences. These include the erosion of trust, the reconfiguration of alliances, the growing entanglement of science, security, and power politics, and an increasingly pronounced tension between multilateralism and national security imperatives.

In light of these dynamics, the Arctic region constitutes a particularly relevant case for analyzing the systemic ramifications of the Russia-Ukraine conflict. It emerges as a revealing laboratory of ongoing transformations in the international order, offering a privileged lens through which to examine both the potential and the limits of multilateral mechanisms in the management of instability.

To develop this argument, the article is structured into five sections: the first provides a theoretical premise necessary for a more nuanced understanding of Arctic regional dynamics; the subsequent four examine, respectively, the impact of the Russia-Ukraine war on the Arctic Council, on scientific cooperation, on the strategic reconfiguration of the region, and on its remilitarization.

2. A necessary theoretical premise

The analysis of the repercussions of the Russian-Ukrainian conflict on the dynamics of the Arctic region raises a fundamental methodological question: "which theoretical framework offers the most effective lens through which to interpret the evolving landscape of Arctic security and governance?"

The Arctic presents distinctive features that challenge its incorporation into conventional analytical paradigms within International Relations theory. A primary theoretical reference point is Neorealism, which, in its classical formulation, underscores the role of states as rational actors driven by the pursuit of power maximization within an anarchic international system. According to Kenneth Waltz, anarchy compels states to compete for security, shaping their strategic behavior according to the distribution of material capabilities and the logic of the balance of power (Waltz, 1979). Within this perspective, cooperation is viewed as subordinate to power interests and ultimately constrained by interstate competition.

The relevance of this approach to the Arctic becomes particularly evident in analyses of the region's increasing militarization and the shifting strategic balance between Russia and NATO member states following the outbreak of the conflict. Nonetheless, the rigid application of the neorealist paradigm presents considerable limitations, often oversimplifying the complex dynamics of the region. For over three decades, the Arctic has been marked by a significant degree of institutionalized cooperation, which has effectively moderated power-based rivalries among its actors. The Arctic Council exemplifies this trend: despite lacking a formal security mandate, it has played a pivotal role in fostering diplomatic collaboration and facilitating agreements on the governance of natural resources and environmental protection since its establishment. Unlike other global strategic arenas, the Arctic has traditionally eschewed open conflict, favoring instead a pragmatic model based on shared resource management and the regulation of maritime sovereignty (Byers, 2017). Another aspect that exposes the limits of a neorealist approach concerns the structure of regional polarity. While neorealism classifies international systems as unipolar, bipolar, or multipolar, the Arctic displays a dual polarity. At the systemic level, the confrontation between Russia and NATO aligns with a broader bloc-based antagonism reminiscent of bipolarity. However, at the regional level, the configuration is far more nuanced: the eight Arctic states have historically upheld a cooperative model that resists binary categorization. Particularly noteworthy is the position of the United States, which – despite being the predominant global power – does not exert uncontested dominance in the Arctic. This is partly attributable to the

U.S. Senate's failure to ratify the United Nations Convention on the Law of the Sea (UNCLOS), which constrains its capacity to assert territorial claims in the North Sea. Furthermore, the geopolitical rivalry between Russia and the United States does not translate into a clear-cut bipolar structure, as regional dynamics involve a plurality of actors with heterogeneous interests – an arrangement more accurately described as multipolar (Padrtová, 2020). In sum, Arctic governance unfolds across two distinct levels: on the one hand, at the systemic level, a growing confrontation between NATO and Russia is discernible; on the other, a dense web of regional interdependence endures, complicating any attempt at linear classification.

An alternative theoretical approach that seeks to transcend the rigidities of Neorealism is offered by the Copenhagen School, particularly through the Regional Security Complex Theory (RSCT) developed by Barry Buzan and Ole Wæver (Buzan & Wæver, 2003). This framework broadens the conceptual scope of security beyond the military domain, encompassing economic, environmental, and identity-related dimensions that shape regional dynamics. The RSCT posits that, even within an anarchic international system, states tend to form Regional Security Complexes (RSCs) – clusters of states bound by high levels of interdependence and relative autonomy from global-level dynamics. The Arctic, however, represents a theoretical anomaly: it has traditionally been excluded from the catalogue of recognized RSCs, having long been regarded as peripheral to global strategic competition.

In light of these considerations, it becomes evident that neither theoretical framework, taken in isolation, offers a comprehensive interpretive tool for understanding Arctic dynamics. Neorealism illuminates the intensification of strategic competition and the region's mounting militarization but tends to overlook the enduring role of institutional mechanisms and interstate cooperation that have historically shaped Arctic governance. RSCT, by contrast, provides a conceptual apparatus better suited to capturing the region's specificities, yet requires adaptation to reflect the Arctic's current status as an area of escalating strategic, economic, and geopolitical salience. Accordingly, the study of Arctic security and governance necessitates an integrated and flexible theoretical approach, capable

of bridging classical paradigms of International Relations with the region's evolving realities and intrinsic complexities.

3. The impact of the Russian-Ukrainian conflict on the Arctic Council

An ancient Inuit proverb states: "Once one has been bitten by a bear, life is never again so sweet".

Such a traumatic experience – one capable of fundamentally altering perspectives and leaving an enduring mark on those who endure it – inevitably transforms an initially innocent and "sweet" outlook into one of caution and mistrust, which rarely reverts to its original state. Setting aside the evocative coincidence that the bear also serves as a national symbol of Russia, the metaphor aptly captures the profound impact of the Russian-Ukrainian war on the Arctic Region and, more specifically, on the Arctic Council (AC), the regional institution most immediately and significantly affected by the outbreak of the conflict.

As the principal intergovernmental forum in the High North, the Arctic Council was established in 1996 under the Ottawa Declaration and built upon the Arctic Environmental Protection Strategy (AEPS) of 1991. Since its inception, the Council has played a pivotal role in fostering cooperation, coordination, and interaction among Arctic states and Indigenous peoples.

The Council is composed of the eight Arctic states – Canada, Denmark (including the Kingdom of Greenland and the Faroe Islands), Finland, Iceland, Norway, Russia, Sweden, and the United States. These countries, which hold territorial sovereignty in the Arctic, are vested with full decision-making authority and bear primary responsibility for shaping cooperation policies and strategies. Notably, all decisions are adopted exclusively by consensus, underscoring the importance of mutual agreement in Arctic governance.

The Council's multidimensional governance structure also includes the Permanent Participants – six organizations representing Indigenous peoples: the Arctic Athabaskan Council, the Gwich'in Council International, the Inuit Circumpolar Council, the Russian Association of Indigenous Peoples of the North, the Saami Council,

and the Aleut International Association. Although these actors lack formal voting rights, they are indispensable to the Council's agenda-setting and policy-shaping processes.

Another distinctive feature of the Council lies in its inclusion of non-Arctic states, intergovernmental organizations, NGOs, and research institutions as Observers[1]. While lacking decision-making authority, Observers are permitted to contribute scientific and technical expertise and to collaborate with the Council's working groups. These working groups – comprising government representatives, Indigenous organizations, and domain experts – are tasked with addressing the region's principal environmental, social, and economic challenges. Their activities aim to advance scientific cooperation and support national governments in developing sustainable development strategies tailored to the Arctic context.

Although the Council's decisions are advisory and non-binding, they nonetheless carry considerable weight, particularly at the domestic policy level. Indeed, the outputs of the working groups, especially their reports and recommendations, exert a strong influence on national agendas regarding cooperation and environmental stewardship[2]. The absence of binding legal force reflects two core principles of the Council: first, that decisions should emerge solely through the full consent of all the parties involved; and second, that the institution should eschew disputes over contentious issues in order to maintain focus on its foundational objectives (Andreeva and Rottem, 2024).

[1] The current permanent observer states are China, South Korea, Japan, India, Italy, and Singapore. Non-permanent observers include France, Germany, the Netherlands, Poland, the United Kingdom, Spain, and the European Union. Notably, Italy has held permanent observer status since 2013 due to the presence of the National Research Council (CNR) in the Svalbard Islands, operating the Arctic Station "Dirigibile Italia". For further information, cf.: INTERACT, *CNR Arctic Station "Dirigibile Italia"*, INTERACT, 25 February 2021. https://eu-interact.org/field-sites/cnr-arctic-station-dirigibile-italia/ (Accessed: August 2025).

[2] Reference is made here to the three agreements signed under the Arctic Council framework: *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* (2011); *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* (2013); *Agreement on Enhancing International Arctic Scientific Cooperation* (2017).

The Arctic Council's core mission – supporting regional peaceful cooperation, promoting sustainable development, and safeguarding Arctic populations – is firmly anchored in the Ottawa Declaration. Significantly, in accordance with the Arctic Environmental Protection Strategy, a footnote to the Declaration explicitly states that the Council possesses no mandate in the realm of military security and will refrain from addressing matters related to armed conflict or defense. While this stipulation may now appear outdated in light of contemporary geopolitical realities, the principle underpinning it – the establishment of a peaceful, multipolar governance framework – was, until 2022, the cornerstone of the Council's effectiveness. It enabled the Council to maintain its institutional integrity and operational continuity even in periods of significant international tension.

At this point, a first key question arises: "How has the Russian invasion of Ukraine concretely impacted the dynamics of the Arctic Council?"

To address this inquiry, it is first necessary to present, in chronological order, the main events that have shaped the past three years. On 3 March 2022, just nine days after Russia's full-scale invasion of Ukraine, the seven Western member states of the Arctic Council issued a joint statement unanimously condemning Russian aggression, reaffirming the core principles of sovereignty and territorial integrity, and announcing the temporary suspension of all activities of the Arctic Council and its subsidiary bodies.

Unsurprisingly, this disruption of regional governance and suspension of dialogue with Moscow quickly extended to other regional for a: in the ensuing months, Russia formalized its permanent withdrawal from the Council of the Baltic Sea States (17 May 2022) and the Barents Euro-Arctic Council (18 September 2023), justifying these decisions by citing the growing politicization of both bodies and agendas perceived as hostile to Russian national interests.

However, such a rupture did not occur within the framework of the Arctic Council. On 4 March 2022, Nikolay Korchunov, then-Chair of the Senior Arctic Officials (SAOs), speaking on behalf of the Russian Ministry of Foreign Affairs, firmly condemned the decision of the other seven Arctic states to suspend Council activities. Nonetheless, he reiterated Moscow's intention to maintain its membership in the forum and to preserve a constructive stance towards regional cooperation.

This posture was presumably shaped by two key factors: first, the strategic relevance of the Arctic in Russia's foreign policy, particularly in the domains of energy, economics, and national security; second, the fact that, at the time of the suspension, Russia held the rotating chairmanship of the Arctic Council for the 2021-2023 biennium. In light of this institutional role, and notwithstanding the interruption of formal meetings, Russia announced its intention to proceed with all previously planned initiatives – excluding formal convenings – according to the pre-established timeline.

Within this context, a noticeable shift in Russia's Arctic rhetoric towards more overtly nationalist positions became apparent. This evolution was further underscored in Korchunov's statement of 20 May 2022, in which he argued that the future of Arctic cooperation would be heavily influenced by the potential accession of Sweden and Finland to the North Atlantic Alliance, a process still under deliberation at that time[3]. Meanwhile, on the Western front, although official statements remained scarce, a substantive debate unfolded regarding the future of the Arctic Council and the broader prospects for Russia-West cooperation in the region[4].

Speculation over a potential reconfiguration of the Council's governance was significantly tempered on 10 May 2022, when Norway officially confirmed its intention to proceed with preparations for assuming the Council's chairmanship the following year. Several weeks later, on 8 June 2022 – more than three months after the initial joint communiqué – the seven Western Arctic states issued a new statement announcing the partial resumption of Council activities. This declaration emphasized the importance of reinitiating scientific cooperation and ensuring continuity in projects already underway prior to the outbreak of hostilities. Although Russia formally

[3] Finland officially became a NATO member on 4 April 2023, while Sweden formally joined the Alliance on 7 March 2024. Both countries had submitted their applications for membership on 18 May 2022.

[4] For a deeper analysis, cf.: Eilís Q (2022) *Senior Arctic Officials Working on Plan Forward Amidst Arctic Council Pause*. The Barents Observer, 10 May; Holm A (2022) *Arctic Council Without Russia: A Spearhead for Democracy and Freedom of Expression?* High North News, 10 June; Paul M (2022) *Arctic Repercussions of Russia's Invasion*. SWP – German Institute for International and Security Affairs, June.

retained the chairmanship until the end of its mandate, it was now effectively excluded from participating in Council operations.

This second statement reignited speculation about Russia's potential withdrawal from the Arctic Council and became a central point of discussion at the Arctic Circle Assembly held in Reykjavík in October 2022. As per institutional protocol, in November 2022, Russian Foreign Minister Sergei Lavrov formally extended an invitation to Norway to attend the upcoming ministerial meeting for the transfer of the chairmanship.

On 11 May 2023, during a virtual session connecting Salekhard (Russia) and Tromsø (Norway), the Russian Federation formally handed over the Arctic Council chairmanship to Norway. The meeting – preceded by complex negotiations between Moscow and Oslo and largely facilitated by the Arctic Council Secretariat – adhered strictly to the institutional procedures and principles set forth in the Ottawa Declaration. In line with the agreed arrangements, however, the meeting was attended not by ministers themselves, but by their official representatives. For the first time in the Council's history, the ministerial summit concluded without the issuance of a formal ministerial declaration. Instead, a consensual statement was adopted, requiring only the approval of the participants.

This document made explicit reference to the Report of the Arctic Council's Senior Arctic Officials to Ministers (adopted in Reykjavík in May 2021), the Reykjavík Ministerial Declaration, and the Strategic Plan of the Arctic Council (2021-2030). Accordingly, the resumption of the Council's activities and the work of its subsidiary bodies was to proceed on the basis of these pre-war consensus documents, previously endorsed by all eight Arctic states. Notably, the only reference to Russia's chairmanship appeared at the very end of the statement, which merely acknowledged "the conclusion of the second Chairmanship of the Russian Federation".

During a press conference held in conjunction with the handover, SAO Chair Nikolay Korchunov, when asked to speculate on a scenario in which all Arctic Council members except Russia were to join NATO, voiced concern. He warned that a predominant role for the Atlantic Alliance within the Arctic Council could pose challenges and hamper the restoration of meaningful regional collaboration.

Shortly after Norway assumed the chairmanship, the message announcing the suspension of Council activities was quietly removed from the Arctic Council's official website and few months later, in June 2023, the Council outlined its agenda for the 2023-2025 biennium, including new guidelines for the gradual reactivation of scientific Finally, on 28 February 2024, the Arctic Council Secretariat announced that a unanimous consensus had been reached among the eight Arctic States and the Indigenous Permanent Participants to gradually resume official meetings of the Working Groups in digital format. Since August 2023, these activities had been conducted exclusively via written procedure. The reintroduction of virtual meetings thus represented a significant step forward, marking the first meaningful return to operational cooperation since March 2022. Notably, these digital Working Group meetings were once again open to the full participation of Observers and external experts.

On 24 January 2025, nearly a year after the virtual resumption of the Arctic Council's Working Groups, the spokesperson for the Russian Ministry of Foreign Affairs, Maria Zakharova, granted an official interview – subsequently published on the Ministry's website – in which she addressed several critical issues concerning the Arctic Council. Zakharova emphasized that, since the beginning of the Norwegian chairmanship, the Russian Federation has maintained an active dialogue with both Oslo and the Arctic Council Secretariat in Tromsø, with the dual objective of safeguarding national interests and fostering regional cooperation. Nonetheless, she underscored that the resumption of activities via virtual working groups remains an insufficient substitute for the full restoration of political dialogue, noting that the Committee of Senior Arctic Officials continues to be suspended. In response to speculation regarding a possible rapprochement between Russia and Western states through the Arctic Council framework, Zakharova confirmed that, as of the second half of 2024, Moscow had indeed resumed – albeit on a limited basis – its participation in the Council's activities. This re-engagement included contributions to the six thematic working groups addressing sustainable development, climate change, environmental protection, and emergency management. Concerning Russia's prospective role within the Council, the spokesperson reaffirmed Moscow's commitment to regional stability and

cooperation, expressing optimism about a potential full resumption of institutional activities. At the same time, echoing prior statements by Foreign Minister Lavrov, she clarified that Russia's future engagement within the Arctic Council will be contingent upon the evolution of the broader geopolitical landscape and the alignment of such engagement with Russian strategic interests in the region. Finally, when questioned about the possibility of reestablishing direct dialogue among the five Arctic coastal states (Russia, Denmark, Canada, Norway, and the United States), Zakharova responded that, under the current geopolitical conditions, the prospects for constructive engagement remain remote. She asserted that only the abandonment of adversarial policies and the explicit recognition of Russian interests could pave the way for meaningful cooperation.

In light of the foregoing, a new central question arises: How has the Arctic Council managed to withstand the repercussions of the Russian-Ukrainian conflict?

A full response to this question would require a detailed and wide-ranging analysis that goes beyond the scope of this article. However, based on the institutional features of the Arctic Council and the key developments of the past three years, some preliminary considerations can be offered to inform a tentative answer.

As previously noted, the Council's institutional architecture constitutes a foundational element of its resilience. Designed as a privileged forum for regional cooperation on environmental, scientific, and sustainable development issues, the Council has deliberately excluded security and defence matters from its agenda. This institutional configuration has helped to mitigate the risks of political polarization within its Working Groups, which are predominantly composed of scientists and researchers. Consequently, even during the formal suspension of Russia's participation, member states were able to preserve a limited, yet functional, form of interaction.

This was particularly evident during the period immediately following the formal suspension of activities on 4 March 2022, when Russia independently announced its intention to continue all initiatives related to environmental research and management. Similarly, Norway's formal preparations for assuming the Council's rotating chairmanship (13 May 2022), and the joint declaration of the seven other Arctic states on 8 June 2022 – announcing the partial

resumption of Council activities – demonstrated a shared intent to uphold the institutional continuity of the forum.

A second factor contributing to the Arctic Council's resilience is the nature of its governance framework. Operating by consensus but lacking a legally binding treaty that compels member states to cooperate under all circumstances, the Council embodies a degree of institutional flexibility. This has allowed the other seven member states (Canada, Denmark, Finland, Iceland, Norway, Sweden, and the United States) to pursue numerous activities through parallel formats and initiatives that do not necessarily involve Russia. In contrast, the Organization for Security and Cooperation in Europe (OSCE) has faced operational paralysis owing to its unanimity requirement, which includes Russia's participation.

A third pillar of institutional resilience has been the proactive engagement of non-state actors, notably indigenous organisations and accredited international observers. These stakeholders have maintained communication channels on environmental and scientific matters even during the diplomatic freeze among member states and, have played an essential role in promoting transnational cooperation.

Lastly, it is indisputable that the Arctic region's unique climatic and geographic characteristics have generated shared strategic imperatives among regional actors. The sustainable management of Arctic resources, the mitigation of climate change impacts, and the regulation of emerging maritime routes constitute common priorities that transcend geopolitical rivalries. These converging interests have functioned as stabilising forces, preventing a complete institutional breakdown.

In conclusion, the Arctic Council's endurance amidst geopolitical turbulence can be attributed to a combination of adaptability and normative consistency. On the one hand, the forum has demonstrated a notable capacity to adjust to rapidly evolving international conditions; on the other, it has remained anchored to its foundational principles and objectives.

Nonetheless, this resilience should not be misconstrued as a guarantee of long-term stability. The Council remains vulnerable to both exogenous shocks and internal fractures. There exists a tangible risk that its role will gradually be marginalised, potentially paving the way for alternative institutional arrangements or a shift toward bilateralism at the expense of multilateral cooperation.

4. The impact of the Russian-Ukrainian conflict on regional scientific cooperation and the role of science diplomacy

Since the 1990s, scientific research has constituted one of the foundational pillars underpinning the political, environmental, and institutional dynamics of the Arctic, for at least two fundamental reasons. First, it serves as an indispensable instrument for the collection and analysis of empirical data, as well as for the formulation of strategies aimed at mitigation and environmental protection in what is globally recognized as one of the regions most acutely vulnerable to climate change[5]. Second, owing to its intrinsically cooperative nature, scientific research has facilitated dialogue among states and regional actors, thereby fostering the development of a transnational model of collaboration rooted in the exchange of knowledge, expertise, and resources. This model has gradually shaped Arctic governance, as evidenced by the proliferation of multilateral fora and international agreements regulating the region's management.

The promotion of scientific cooperation in the Arctic, however, traces its origins back to the Cold War era. A key milestone in this process was the landmark Murmansk speech delivered in 1987 by Soviet President Mikhail Gorbachev, in which he advocated for the transformation of the Arctic into a "zone of peace and cooperation". This appeal marked a watershed moment in the region's history, catalyzing not only a reduction in military tensions but also the launch of international initiatives focused on environmental protection and the promotion of joint scientific research among Arctic nations.

In 1990, with the explicit aim of fostering collaboration among scientists from different countries, the International Arctic Science Committee (IASC) was established. This independent scientific body has played a pivotal role in coordinating interdisciplinary research and facilitating access to the Arctic for the global scientific community. In 1994, the IASC further promoted the establishment of the International Science Initiative in the Russian Arctic (ISIRA), an advisory body designed to support scientific cooperation with Russia and to facilitate the exchange of data and knowledge. In parallel, Gorbachev's initiative contributed to the establishment of the

[5] On the Arctic region's vulnerabilities to climate change, cf.: Petersen K (2025) *New study reveals Arctic hotspots of warming*. Woodwell Climate Research Center, 16 January.

Arctic Council in 1996, which would gradually evolve into the principal institutional framework for regional governance. Through its Working Groups, the Council has overseen various environmental and scientific monitoring initiatives, notably including the Arctic Monitoring and Assessment Programme (AMAP), tasked with assessing environmental and climatic impacts in the region.

A further significant development in Arctic scientific cooperation was marked by the signing, in 2017, of the Agreement on Enhancing International Arctic Scientific Cooperation. Concluded by all Arctic Council members, this agreement was intended to reinforce scientific collaboration not only among Arctic states but also with non-Arctic countries with a vested interest in the region. Among its core provisions, the accord emphasized the sharing of scientific data, institutional collaboration, and the creation of joint research opportunities, with particular attention to environmental sustainability and the protection of Arctic ecosystems.

For many years, scientific collaboration in the Arctic demonstrated remarkable resilience even amidst severe geopolitical crises, such as Russia's invasion of Georgia in 2008 and the annexation of Crimea in 2014. However, the onset of the Russian-Ukrainian conflict has resulted in an unprecedented rupture in Arctic scientific cooperation, severely compromising decades of research and generating potentially irreversible consequences for both knowledge production and environmental protection in the region[6].

Beginning in February 2022, the European Commission adopted a series of sanctions that included, inter alia, the immediate suspension of research funding allocated to Russian institutions, the severance of cooperation with universities and research centres, and Russia's exclusion from pan-European research programs such as Erasmus+ and Horizon Europe. In alignment with this stance, the seven Western Arctic states – Canada, Denmark, Finland, Iceland, Norway, Sweden, and the United States -announced in March 2022 the suspension of all Arctic Council activities involving Russia,

[6] For the full version of the *Agreement on Enhancing International Arctic Scientific Cooperation*, cf.: https://www.arctic.gov/agreement-on-enhancing-international-arctic-scientific-cooperation/#:~:text=The%20purpose%20of%20this%20Agreement,scientific%20knowledge%20about%20the%20Arctic

which at the time held the rotating presidency of the forum (May 2021 – May 2023). Although Moscow sought to maintain the continuity of certain scientific projects, particularly those related to environmental monitoring and climate change in the Arctic, the majority were either suspended outright or substantially curtailed[7].

In June 2023, one month after the transition of the Council presidency from Russia to Norway, a partial resumption of those projects that did not directly involve Russian institutions was announced. Subsequently, in February 2024, the Arctic Council Secretariat declared the gradual resumption of official Working Group meetings in virtual format. As of March 2025, while direct institutional collaboration and high-level political dialogue remain suspended, scientific cooperation involving Russian experts within the framework of the Working Groups is ongoing.

Those most severely affected – and who continue to suffer – from the repercussions of the conflict in the realm of scientific research have been Russian researchers.

At the international level, following the adoption of sanctions and the suspension of numerous funding and mobility channels, Russian institutions and researchers have found themselves progressively isolated from the global scientific community. This has resulted in a sharp decline in opportunities to participate in international conferences, publish in academic journals, and access established transnational academic networks. In many international cooperation forums, the formal exclusion of Russian entities has hindered interactions between scientific communities, thus compromising data exchange in shared research areas. Russian universities, for example, were suspended from networks such as the European University Association (EUA), and many Russian researchers were excluded from European mobility and scientific cooperation programs, such as the Marie Skłodowska-Curie Actions (MSCA). The European Union also severed all research ties with Russian institutions, sanctioning the exclusion of the Federation's universities from

[7] On the suspension of scientific cooperation between Europe and Russia and its implications for the Arctic, cf.: Andreeva S (2023) *Science at Stake – Russia and the Arctic Council*. *Arctic Review on Law and Politics* 14; O'Malley B (2022) *European Union halts scientific cooperation with Russia*. *University World News*, 5 March.

joint funding initiatives, including Horizon Europe, the EU's flagship research and innovation program.

At the national level, in April 2022, the Russian government introduced a ban on the participation of Russian scientists in international conferences, with the stated aim of preventing external cultural and scientific influence. Simultaneously, legislation was passed requiring authors of scientific publications to declare any affiliations with foreign institutions, and changes were announced to the criteria for evaluating academic careers, eliminating recognition for publications indexed in international databases such as Web of Science and Scopus. These measures were accompanied by increasing surveillance of researchers in contact with foreign colleagues. Interviews conducted with émigré academics indicate that, in the months following the outbreak of the conflict, Russian authorities began to view international ties as potential national security risks. A symbolic episode of this dynamic is represented by the case of the Russian scientific journal *Troitsky Variant*, which in 2022 published an open letter signed by over 8,000 scientists, academics, and science journalists opposing the invasion of Ukraine. In response, the Russian authorities designated the journal as a "foreign agent" and proceeded to block its distribution across the national territory. In this context, an increasing number of scientists have chosen to leave the Russian Federation, driven by a desire to preserve their professional integrity, avoid conscription, or escape growing forms of surveillance. According to a survey published by *Novaya Gazeta Europe* in February 2024, at least 2,500 scientists have left Russia since the beginning of the conflict. Data collected by the Russian Academic Science Fund indicates that approximately 60% of those who emigrated do not intend to return, citing diminished academic freedom and fear of further restrictions as their primary reasons.

Russia's isolation from transnational cooperation has had profound consequences for Arctic research, precisely because of the central role the Russian Federation plays in the region. With about half of the Arctic's landmass under its jurisdiction, control over vast areas of the Arctic Ocean, and nearly half of the Arctic population residing within its borders, Russia is a key actor in the study of the region's environmental, climatic, and ecological processes. The interruption of international funding and collaborations has led to the suspension of

numerous environmental monitoring projects, obstructing the collection of essential data for climate change analysis. Additionally, the inability to access Russian research infrastructure has produced significant imbalances in climate and environmental models, as data collected since 2022 predominantly comes from areas that are not representative of the entire Arctic ecosystem, such as North America and Europe.

An emblematic case of the consequences of this fracture is the study of permafrost, a key theme in global climate research. Russia holds approximately 60% of the planet's permafrost and is home to some of the oldest and deepest layers, particularly in Siberia. Before the conflict, monitoring of these areas was conducted through an international research network involving Western institutions, including the International Network for Terrestrial Research and Monitoring in the Arctic (INTERACT). However, the suspension of 21 Russian research stations from INTERACT and the relocation of the Permafrost Pathways project – initially planned in Siberia – to Canada and Alaska, have created critical gaps in understanding the pace and dynamics of permafrost thaw. To address this data shortfall, scientists are attempting to develop alternative methodologies, such as the European Space Agency's Climate Change Initiative (CCI), which uses satellite imagery to monitor permafrost changes. Nevertheless, without direct field measurements, the reliability of such observations remains limited – and considering that the Arctic is warming at nearly three times the global average, the absence of adequate mitigation measures makes permafrost thaw likely inevitable. This would result in the release of large quantities of greenhouse gases and potentially trigger an unpredictable acceleration in global warming.

From a political perspective, Moscow has interpreted the measures adopted by Western countries as an instrumentalization of scientific cooperation, in violation of the principles set forth in the Arctic Council Charter and the legal foundations of the 2017 Agreement on Enhancing International Arctic Scientific Cooperation. The Arctic Council Charter explicitly excludes any military-related issues, while the 2017 Agreement does not provide for its suspension, termination, or withdrawal in the event of armed conflict.

This perception has further motivated Moscow to pursue a diversification of its scientific partnerships and to strengthen academic ties with China and India, both of which have held Permanent Observer

status on the Arctic Council since 2013. A significant example of this shift was the 2022 announcement of the establishment of a new scientific research center in Svalbard, promoted by the Russian company Arktikugol, a historic Russian mining firm operating in the archipelago, with settlements in Barentsburg and Pyramiden. It is important to note that the Svalbard archipelago is subject to Norwegian sovereignty under the 1920 Svalbard Treaty, which grants signatory states the right to access and utilize the territory for economic and scientific activities, including the exploitation of natural resources and research, while explicitly prohibiting the installation of military bases or any military-related activities in the area. The project, strongly backed by Moscow, officially aims to establish a research institute that will host scientific activities in collaboration with BRICS countries and other partners such as Turkey and Thailand. However, the involvement of certain actors external to the region – particularly China, which has formally integrated the Arctic into its Polar Silk Road strategy, and, increasingly, India – fits within a broader framework of commercial and maritime projection linked to the development of the Northern Sea Route. In response, in May 2024, Norway published a white paper aimed at limiting Russian influence in the archipelago, stipulating that the University Centre in Svalbard (UNIS) will be the sole provider of advanced education on the islands. Additionally, to reaffirm its sovereignty over Svalbard and ensure greater control over scientific activity in the region, the Norwegian government has announced the creation of a research office managed by the Norwegian Polar Institute, funded directly through public resources.

Although these new collaborations offer Russia opportunities to maintain an active role in Arctic research, they do not fully compensate for the loss of scientific networks with Western countries. The interruption of transnational partnerships with Europe and North America has, in fact, compromised a research ecosystem that was built and consolidated with great effort over decades without which the development of scientific research and the formulation of shared strategies become unfeasible.

5. The end of Finnish and Swedish neutrality: implications for Arctic security

Among the various repercussions of the Russian-Ukrainian conflict in the Arctic region, the accession of Finland and Sweden to the North Atlantic Alliance has undoubtedly received the most international attention. This strategic realignment not only redefined NATO's operational configuration but also marked the beginning of a new phase in the governance of the Arctic, where the Russian Federation now finds itself diplomatically and militarily isolated from the other seven Arctic states – all of which are members of the Alliance.

Finland and Sweden formalized their NATO accession on April 4, 2023, and March 11, 2024, respectively, thereby inaugurating a historic shift in their respective security doctrines and strategic orientations[8]. Despite the temporal proximity of their membership, the trajectories that led each country to abandon its traditional neutrality differ considerably, primarily due to their distinct historical legacies and strategic cultures shaped by the post-World War II international order.

Finland's neutrality emerged as a consequence of external impositions in the aftermath of the Second World War. The Moscow Armistice of 1944 and the Paris Peace Treaty of 1947 imposed stringent constraints on Finland's military and political conduct, including the explicit renunciation of military alliances incompatible with Soviet interests. These restrictions were subsequently institutionalized through the 1948 Treaty of Friendship, Cooperation and Mutual Assistance (FCMA) with the Soviet Union. Although the treaty formally recognized Finland's independence and sovereignty, it also enshrined a commitment to neutrality within the context of Cold War bipolarity. This gave rise to the concept of "Finlandization" – a model of conditional neutrality wherein Finland, while maintaining its democratic governance, refrained from criticizing Soviet policies and adopted a restrained foreign policy. In this framework, Finland developed a security strategy based on the notion of comprehensive

[8] For a deeper comparative perspective, cf.: Forsberg, R. & Moyer, J.C. (2022) *Sisters But Not Twins: Prospects of Finland and Sweden's NATO Accession*, Wilson Center, 2 February; Solli, P.E. & Solvang, Ø. (2022) *Finland and Sweden's Path Towards NATO*, Royal United Services Institute (RUSI), 13 April.

security, integrating military defense with economic, social, and infrastructural resilience to enhance national preparedness and crisis management capacity.

Sweden, by contrast, pursued a policy of self-imposed neutrality following the Second World War, aimed at preserving its autonomy in foreign policy and reinforcing its role as a potential mediator in international conflicts. However, as early as the 1950s, Sweden established a network of informal collaborations with the United States and NATO member states, particularly in the fields of intelligence sharing and military technology. In doctrinal terms, Stockholm formulated the concept of *Totalförsvar* (total defense), an integrated approach that mobilizes all sectors of society – including the armed forces, civilian infrastructure, the economy, and communications – for national defense and societal resilience in the event of conflict.

Following the end of the Cold War, both countries began progressively recalibrating their strategic outlooks. In 1994, they joined NATO's Partnership for Peace program and subsequently contributed to international missions under both NATO and EU mandates. Finland strengthened its interoperability with the Alliance and explicitly kept the option of full membership open as early as the 1997 Defense White Paper. For Sweden, a doctrinal turning point was the 2009 strategic shift away from exclusive territorial defense towards an outward-looking defense posture.

The 2014 annexation of Crimea and Russian military intervention in the Donbas region served as a critical wake-up call not only for Finland and Sweden but also for other Nordic countries. These developments rekindled debates around strategic posture and security alignment. In the years that followed, both Helsinki and Stockholm significantly increased their defense spending, reinstated military conscription (Sweden reintroduced compulsory service in 2018 after its suspension in 2010), deepened bilateral security ties with the United States (notably through the Finland-Sweden-US trilateral cooperation), and participated in regional security arrangements such as the Joint Expeditionary Force (JEF) and the Nordic Defence Cooperation (NORDEFCO). Furthermore, in 2017, both states signed Host Nation Support agreements with NATO, allowing for the deployment of allied forces on their territory in the event of joint exercises or security crises.

In light of this context, the decision by Finland and Sweden to apply for NATO membership following the outbreak of the Russian-Ukrainian conflict in 2022 can be interpreted as the natural culmination of a long-standing process of gradual rapprochement with the Alliance, already well underway since the end of the Cold War. Nonetheless, the accession process triggered intense political debates and extensive public consultations in both countries. In Finland, the decision was endorsed by a broad parliamentary majority, with the national legislature voting in favour of the application in May 2022. In Sweden, although the debate initially proved more contentious due to resistance from certain political factions, the process ultimately resulted in broad parliamentary consensus in support of the formal membership request. Notably, for the first time in their respective histories, public opinion polls in both countries revealed a clear majority of citizens in favour of NATO accession.

On April 4, 2023, in an official ceremony held at NATO headquarters in Brussels – attended by then-President of Finland Sauli Niinistö and NATO Secretary General Jens Stoltenberg – Finland formally became the thirty-first member of the Alliance, effectively doubling the length of the NATO-Russia border. Sweden's accession process, by contrast, was delayed due to the reservations expressed by Turkey and Hungary[9]. However, after nearly two years of negotiations and diplomatic engagement, Sweden's accession was formally concluded on March 11, 2024, through a parallel ceremony at NATO headquarters in Brussels.

The accession of Finland and Sweden to NATO represents a momentous shift not only in the defense postures of the two states, but also in the broader strategic configuration of the Alliance. Both countries, characterised by high levels of political-institutional stability and substantial technological and military capabilities, have significantly bolstered NATO's defense architecture and operational readiness since their integration (Carati, 2022).

[9] Turkey and Hungary delayed Sweden's NATO accession: Ankara objected to Sweden's perceived tolerance toward Kurdish groups deemed terrorist, while Budapest expressed discontent over Swedish criticism of the rule of law in Hungary – framing the enlargement issue within a broader context of bilateral political tensions.

Finland, with over 1,300 kilometres of shared border with Russia, has assumed an intrinsically strategic role within the Alliance's deterrence framework. Its geographical positioning reinforces NATO's northern and Baltic flanks, positioning Finland as a frontline state in the containment of potential threats from Moscow. Additionally, Finland's contribution is noteworthy for the effectiveness of its military apparatus: maintaining compulsory military service without interruption, Finland can field over 280,000 personnel in wartime. Its arsenal includes state-of-the-art air and missile defense systems, such as NASAMS, alongside long-range radar and maritime surveillance technologies already integrated into NATO's network – assets critical to the monitoring of the Arctic and Baltic theatres. Finland's potential was visibly demonstrated during its participation in the 2018 "Trident Juncture exercise", one of NATO's largest post-Cold War collective defence drills, which mobilised 50,000 troops from 30 countries in simulated responses to high-intensity threats from the east. In parallel to the military dimension, Finland has also enhanced NATO's logistical capabilities, facilitating the rapid deployment of troops and materiel in northern territories and along the Russian border. The presence of a well-developed military infrastructure and a robust logistical system ensures a higher level of operational agility, thereby strengthening NATO's overall force posture.

While Sweden maintains a smaller pool of military personnel relative to Finland, it contributes to the Alliance in a highly strategic and technologically advanced manner. From a military perspective, Sweden possesses a cutting-edge submarine fleet, currently composed of three Gotland-class submarines and one older vessel, soon to be replaced by two next-generation units expected to be operational by 2028, thus expanding the fleet to five. Drawing upon its extensive experience in navigating the Baltic Sea, Sweden helps compensate for operational limitations faced by U.S. submarines in the region. Furthermore, Sweden boasts the largest air force among the Nordic countries, with a fleet of at least one hundred combat aircraft – a number projected to increase in the coming years. This expansion is set to significantly enhance NATO's air power in the Baltic and Arctic theatres and reduce the Alliance's reliance on U.S. aerial patrols.

Strategically, Sweden is also poised to play a critical role in the realm of intelligence, particularly in safeguarding critical infrastructure against cyber threats. The country is recognized as one of the most advanced European actors in the field of cybersecurity, owing to the close collaboration between the Swedish Armed Forces, academic institutions, and the private sector.

6. The remilitarization of the Arctic: Russia's posture following Finland and Sweden's accession to NATO

The accession of Finland and Sweden to NATO has imparted renewed momentum to the ongoing militarization of the Arctic – a process that had, in fact, been unfolding for over a decade. As early as 2009, Russia launched an extensive program to modernize its Northern Fleet, marking a strategic inflection point in its Arctic defense policy. Today, with the integration of the two Nordic countries into the Atlantic Alliance, Russia finds itself as the only Arctic state excluded from NATO – an unprecedented condition that entails significant strategic and military ramifications.

The Soviet Union's strategic engagement with the Arctic began to take form in the 1930s, yet it was only after the Second World War that it acquired a systematic and institutionalized character. Under the leadership of then-President Joseph Stalin, the USSR launched a comprehensive industrialization program aimed at transforming the Arctic into a pivotal component of Soviet defense through the construction of military and port infrastructure. During the ensuing decades – particularly at the height of the Cold War – the polar region emerged as one of the most militarized areas on the planet, due to its unique geographic position which drastically reduced the physical distance between the United States and the Soviet Union, thereby intensifying their mutual vulnerability to potential missile strikes.

It was in this strategic context – between the 1970s and 1980s – that the Soviet doctrine of the "Northern Bastion" was developed. This concept entailed the creation of a heavily fortified zone in the Barents Sea and on the Kola Peninsula, within which ballistic missile submarines (SSBNs) of the Northern Fleet could operate under secure conditions, thereby safeguarding the USSR's second-strike

nuclear deterrent capability (Sergunin, 2020). With the dissolution of the Soviet Union, a substantial portion of Arctic military infrastructure was either dismantled or fell into disuse, with the notable exception of facilities located on the Kola Peninsula, which retained their strategic relevance.

Since the rise to power of Vladimir Putin in the late 1990s, the Arctic has once again assumed a central role in Russia's foreign, military, and economic policy. This renewed focus stems from the same overarching interests that had motivated Stalin: the extraction and control of energy resources, the protection of Russian territorial integrity and population centers, the reinforcement of the Northern Fleet, and the assertion of control over key maritime trade routes – most notably the Northern Sea Route (NSR) (Åtland, 2011).

In the early 2000s, Russia adopted a cooperative stance toward other Arctic states, engaging in both bilateral and multilateral agreements. However, this posture shifted markedly in 2007, when Russia intensified aerial patrols along the Norwegian coast and, in a highly symbolic act, planted a Russian flag on the seabed beneath the North Pole. Though devoid of legal effect, the gesture underscored Moscow's strategic aspirations in the region and its willingness to assert claims over valuable natural resources, including hydrocarbons and rare earth elements.

From 2008 onwards, Russia's Arctic policy has grown increasingly assertive. The Kremlin launched a comprehensive military modernization program, channeling significant investments into the enhancement of the Northern Fleet and the refurbishment of numerous Soviet-era installations. At present, the Northern Fleet comprises five operational formations, primarily based on the Kola Peninsula, and includes surface naval units, strategic submarines, and specialized military forces. Alongside its offensive capabilities, Russia has also fortified its Arctic defense through the deployment of an advanced coastal missile system and a dense network of military bases, airfields, and radar stations – thereby reinforcing the multi-layered defense concept inherited from the Soviet legacy.

Moreover, over the past decade, Moscow has expanded its Arctic operational capabilities through the development of the world's largest icebreaker fleet, currently numbering approximately forty vessels – a figure that starkly contrasts with the United States' possession of only

a single operational icebreaker. In the Pacific Arctic, Russia has also increased its military presence, particularly in the strategically significant areas between the Bering Sea and the Sea of Okhotsk. The Kamchatka Peninsula, in particular, hosts a constellation of military installations that secure Russia's maritime access to the Pacific Ocean, although these assets are not as developed or strategically dense as those located in the European Arctic.

The full-scale invasion of Ukraine in 2022 marked a pivotal juncture in the strategic balance of the Arctic region, yet it did not prompt a fundamental overhaul of Russia's military posture. As reaffirmed by President Vladimir Putin during his address at the Murmansk Arctic Forum on March 27, 2025, Russia's strategic objectives in the High North remain consistent with those articulated prior to the outbreak of hostilities and codified in the 2022 Maritime Doctrine – namely, the defense of the Arctic Zone of the Russian Federation (AZRF) and the safeguarding of the Northern Sea Route (NSR). Nonetheless, the accession of Sweden and Finland to NATO has amplified Moscow's perception of strategic encirclement, reinforcing the prevailing narrative of the Alliance's eastward encroachment and framing the Arctic as a potential arena of future confrontation.

Aligned with this revised threat perception, the updated Arctic Strategy released in February 2023 marked a decisive departure from its previous iteration: references to multilateral cooperation were systematically removed and supplanted by an emphasis on self-reliance and the primacy of Russian national interests (Lipunov and Devyatkin, 2023).

At the operational level, Russian authorities have announced plans to reinforce military infrastructure on the Kola Peninsula and to expand the deployment of nuclear-powered submarines in Arctic waters. Concurrently, heightened Russian naval activity is anticipated at key maritime chokepoints in the North Atlantic – most notably the Greenland–Iceland–United Kingdom (GIUK) and Greenland–Iceland–Norway (GIN) gaps – strategic corridors delineating the boundary between NATO-controlled waters and areas where Russia seeks to maintain influence (Boulègue, 2024).

Another source of friction is the Svalbard archipelago, which, although governed under Norwegian sovereignty, has become a focus of Russian criticism in recent years. The Kremlin has expressed

concerns that the United States may exploit Svalbard as a platform for intelligence-gathering operations, thereby increasing the likelihood of diplomatic tensions or localized crises. While the prospect of open conflict in the area remains remote, the archipelago's proximity to critical Northern Fleet installations renders it a potential flashpoint in the event of broader escalation.

Since the onset of the Russian-Ukrainian conflict, there has been a marked increase in hybrid operations targeting Scandinavian states – manifesting through cyberattacks, sabotage of critical infrastructure, interference with GPS systems, and heightened espionage. Distributed Denial of Service (DDoS) attacks – particularly those attributed to pro-Russian hacktivist groups such as Killnet and NoName057(16) – have affected Norway, Finland, and Sweden with growing frequency. While these cyberattacks have yet to inflict significant structural damage, they have reignited debates on the resilience of Western states to emergent technological threats. Simultaneously, incidents of sabotage against vital infrastructure – particularly submarine cables and energy networks – have exposed the region's vulnerabilities in domains already marked by strategic sensitivity.

In this same context, Russian intelligence operations have intensified. According to assessments by the Danish Security and Intelligence Service (PET), Moscow's increasing international isolation has heightened the imperative to gather actionable intelligence on the energy, security, and military policies of Arctic states – thereby prompting an escalation in espionage activities.

In conclusion, Russia's military posture in the Arctic today appears predominantly defensive, centered on preserving nuclear deterrence capabilities and securing infrastructure critical to hydrocarbon extraction and maritime transport. Despite the rising tension in the region, a direct military confrontation between Russia and NATO appears improbable in the short term, as the Alliance's conventional superiority and the catastrophic potential of escalation serve as robust deterrents. Nevertheless, the trajectory of Russian strategic behavior over the past three years suggests a likely intensification of hybrid tactics, including cyberwarfare, disinformation, sabotage, and intelligence operations, aimed at undermining NATO cohesion and impeding regional integration. Moreover, the ongoing deterioration of Russia-West relations – coupled with the absence

of reliable communication channels – raises the risk of miscalculation and unintended escalation, while simultaneously accelerating Moscow's strategic and economic alignment with actors such as China, whose involvement could substantially reshape the balance of power in the Arctic.

Conclusions

The Arctic region serves as a paradigmatic case for examining the ramifications of the Russian-Ukrainian conflict on global dynamics, as it underscores the inherent tensions within the contemporary international system between the imperatives of interstate cooperation and the necessity of safeguarding national interests and security in an era marked by intensifying geopolitical rivalry and systemic polarization. Specifically, in the Arctic, while there remains a broad consensus among regional actors on the value of dialogue and collaborative management of shared challenges, in practice, Arctic states have been unable to prevent the gradual hardening of their strategic postures in response to broader systemic developments.

Within this evolving framework, scientific cooperation has demonstrated its continued utility as a diplomatic instrument capable of de-escalating tensions and sustaining selective channels of dialogue between Russia and the Western Arctic states. Although formal engagement with Moscow within the Arctic Council has been suspended, the persistence of joint scientific research has enabled the forum to retain its structural coherence, thereby preserving its legitimacy as a cornerstone of regional governance. Nevertheless, the mounting politicization of Arctic affairs casts doubt on the long-term viability of this approach, particularly in light of recent shifts in the regional security architecture.

A critical dimension of this transformation is the accession of Finland and Sweden to NATO, a development that has fundamentally reconfigured the Arctic's security landscape by solidifying the Western military presence and positioning Russia as the sole Arctic power external to the Alliance. This emerging security configuration has amplified Moscow's sense of strategic encirclement, prompting a turn toward increased self-reliance and deterrence – an orientation

that stands in stark contrast to the cooperative ethos and openness that underpinned Arctic governance in the post-Cold War era.

Concurrently, the Arctic – mirroring global trends – is confronting novel dynamics that threaten to heighten its vulnerabilities and erode regional stability. Of particular significance is the growing engagement of extra-regional actors such as China, which appears poised to leverage Russia's international isolation to expand its strategic and commercial footprint in the High North. Simultaneously, the reassertion of U.S. strategic interests – evident in recent declarations by the Trump administration regarding Greenland – signals a potential shift toward a more assertive American posture that may recalibrate the internal equilibrium of NATO's northern flank. These developments are further compounded by the proliferation of hybrid threats across the region, which may strain the capacity of existing governance frameworks to maintain security through conventional means.

In sum, the Arctic is increasingly emerging as a litmus test for the resilience of multilateral governance in an era characterized by growing fragmentation and strategic contestation. The extent to which Arctic states can sustain pragmatic forms of cooperation – despite the erosion of broader diplomatic relations – will serve as a critical indicator of the capacity of international institutions to manage crises and navigate instability in a rapidly evolving global order.

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